The Wayback Machine - https://web.archive.org/web/20140212130226/http://www.abs.gov.au/websitedbs/CaSHome.nsf/Home/CaSQ+33+DO+SWIMMERS+HAVE+LONGER+B…

CaSQ 33 - Do Swimmers have Longer Bodies than Runners?

You can download this activity as a rich text file (RTF) using the link at the bottom of the page.

How to: Get a Random Sample from CensusAtSchool

Go to the CensusAtSchool Random Sampler to download a sample.

Reference year: *(Select year)* **Sample size:** *200 students*

Select questions: *Height, Belly button height, Favourite sport*

Location: *Select location* **Year level:** (*Select a range of year levels)*

To protect privacy there is a rule built into the sampler that the requested sample size cannot exceed 10% of the respondents for the parameters entered.

Task:

A researcher believes that swimmers have lower bellybutton heights than runners. His theory is that a lower bellybutton means a longer torso and a longer torso is an advantage for a swimmer compared to a runner.

CensusAtSchool collects data on height, belly- button height and favourite sport. If we assume that students who choose swimming as their favourite sport are good swimmers we can investigate the claim.

In this investigation you are going to compare the height and bellybutton height of students who select swimming as their favourite sport with the height and bellybutton height of the sample as a whole.

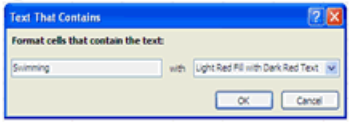
1. In your sample of 200 delete any columns except Height, Belly-Button Height and Favourite Sport.

2. Select and delete any rows containing data that are obvious errors.

3. Select the column that has the Favourite Sport data.
Find the mean height and belly- button height.

4. Divide mean belly-button height by mean height to find the fraction of the height that is the belly-button height.

4. Highlight the swimmers by selecting the Favourite Sports column then Conditional Formatting>Text that Contains...> and typing "Swimming" then choose your highlight



5. Copy and paste the height and belly-button heights of the swimmers into a new sheet and repeat steps 3 and 4.

6. From your results is it true to say that the belly-button height of swimmers is lower than the population as a whole?

Download the full activity: RTF

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